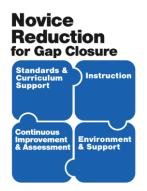**Novice Reduction for Gap Closure:**
**Making a Moral Imperative a Reality**

The purpose of this paper is to explain the need for novice reduction in Kentucky, the approach that has been taken to address the issue and the plan for deployment that will make this moral imperative into a continuous improvement reality for Kentucky students.

**The Need for Novice Reduction**
On June 12, 2015 Kentucky Commissioner, Dr. Terry Holliday, laid out the need for novice reduction in Kentucky in his blog post titled, *"A Moral Imperative."* The text of that post can be found below:

*A Moral Imperative*
*This week, the Kentucky Department of Education (KDE) presented several regulations for final review by the Interim Joint Committee on Education. The regulations are the final step in revisions to the Unbridled Learning Accountability Model that was developed five years ago as a response to requirements in Senate Bill 1 (2009). One of the major changes to the regulations was the addition of a new measure called novice reduction. Several legislators had questions about this new measure and I thought you might be interested in understanding why the new measure was added.*

*For the past three years, KDE has used the Unbridled Learning accountability model. One of the concerns we have heard from education groups, civil rights groups and conservative groups is that the accountability model was not pushing hard enough on closing achievement gaps. While the accountability model did have a measure of efforts to close the achievement gap, many groups felt that individual groups of students were not as evident as they had been under No Child Left Behind. As I looked at the results from 2014 assessments, I became convinced that we needed more focus on the performance of individual groups of students.*

*With our state assessments, students receive ratings of distinguished, proficient, apprentice or novice. The novice level is very low and represents student performance that is several levels below college- and career-ready work. Here are some startling numbers.*

**Percentage Novice Students**

| Group | Elementary Reading | Elementary Math | Middle School Reading | Middle School Math | High School English II | High School Algebra II |
|---|---|---|---|---|---|---|
| All students | 21 | 17 | 21 | 17 | 34 | 24 |
| African American | 38 | 31 | 40 | 33 | 54 | 37 |
| Hispanic | 28 | 22 | 29 | 22 | 43 | 28 |

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|---|---|---|---|---|---|---|
| Migrant | 32 | 25 | 39 | 27 | 58 | 35 |
| Limited English | 43 | 32 | 61 | 43 | 88 | 45 |
| Free/Reduced Meals | 27 | 23 | 29 | 23 | 45 | 32 |
| Individual Education Plan | 40 | 38 | 51 | 45 | 73 | 55 |
| Gap Group | 27 | 23 | 29 | 23 | 45 | 33 |

*While the percentages are very concerning, the real numbers are even more alarming. We have more than 80,000 students performing at the novice level in reading and more than 60,000 students performing at the novice level in math. These are the students who will be challenged to complete high school. These are the students who will not reach college- and career-readiness. These are the students who will need social services. These are the students who have a high likelihood of incarceration. These are the students that Kentucky must care more about and provide intervention for before it is too late.*

*KDE will be focusing efforts on helping schools and districts implement specific strategies to address this high percentage of novice students. We will provide specific support around reading and numeracy programs. We will provide support for positive behavior interventions to address student behavior that interferes with learning. We will provide support for culturally responsive instruction. We will also provide a significant focus on accountability and incentives for schools, districts, and educators for helping move novice students to apprenticeship levels or above.*

*This issue is moral imperative for our Commonwealth and a major civil rights issue for our communities.*

**Based on the vision established by the commissioner in this blog, the Kentucky Department of Education (KDE) has identified the following questions to address in its daily work:**
1) Do we know what is working to help reduce novice performance and close achievement gaps in Kentucky schools?
2) Are the processes behind those things that work clearly defined?
3) How does and can KDE provide clear messaging and support for closing the gap through novice reduction?
4) Where does intervention for novice reduction fit into what Kentucky knows about the *Characteristics of Highly Effective Teaching and Learning* that are common to all content areas, and the *Kentucky Framework for Teaching,*that is used as a basis for the state's Professional Growth and Effectiveness System?

The following two sections describe the approach KDE has taken with this work and the method of deployment.

**The Approach**

**Step 1: Design the system for improving the work**

The department used a SIPOC, a high-level picture that depicts how a given process is servicing the customer. SIPOC is an acronym for Suppliers - Inputs - Process - Outputs - Customers. *Six Sigma: The Science Behind Breakthrough Improvements* defines these as follows:

- **Suppliers** provide inputs to the process.
- **Inputs** define the material, service and/or information that are used by the process to produce the outputs.
- **Process** is a defined sequence of activities that usually adds value to inputs in order to produce outputs for the customers.
- **Outputs** are the products, services, and/or information that are valuable to the customers.
- **Customers** are the users of the outputs produced by the process.

In more formal terms, a SIPOC can be seen as a high-level process map. It is typically used during the design phase of a process improvement project, to help clearly understand the purpose and the scope of a process. It is a starting point in identifying the voice of the customer (VOC). It gives an initial insight into the vital inputs (or X variables) of a process [Y = f(X)] that have significant impact on critical outputs (or Y variables). It also becomes a primary input to detailed process map construction.

Kentucky Department of Education policy advisors were tasked with identifying all legislation and programs in Kentucky that address customer input and who the suppliers are. The result can be found in the chart below. A more detailed breakdown also is available from Associate Commissioner Kelly Foster, Kelly.foster@education.ky.gov.

| Curriculum Assessment and Alignment | 704 KAR 3:303 |
|---|---|
| | 704 KAR 3: 305 |
| | 704 KAR 3: 540 |
| | 158.6453 (Senate Bill 1) |
| Continuous Instructional Improvement Technology System | 158.6451 |
| Accountability Model | 158.6453; 158.6455 |
| Kentucky Scholastic Interventions/ Response to Intervention | KRS 158.305; 704 KAR 3: 095 |
| | KAR 704 KAR 3: 305 |
| | KRS 158.6543 |
| | KRS 158. 6459 |
| | KRS 158.792; 704 KAR 3:480 |
| | KRS 164.0207 |
| | KRS 158.844; 704 KAR 3:530 |
| | KRS 158.070 |
| | KRS 158.070 (9); 704 KAR 3:390 |

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| Achievement Gaps | KRS 158.6549 |
| Program Reviews | KRS 158.6453 (SB1) |
| Program Reviews (Instructional Programs and Support) | 703 KAR 3:230 |
| Literacy (RTA) | 158.792; 704 KAR 3:480 |
| Mathematics | KRS 158.848 |
| | KRS 164.525 |
| | KRS 158.842 |
| | KRS 158.844; 704 KAR 3:530 |
| | KRS 158.847 |
| | KRS 158.803 |
| School Readiness and Early Learning | KRS 157.3175; 704 KAR 3:410 |
| | KRS 157.318 |
| | KRS 157.226; 702 KAR 3:250 |
| | 704 KAR 3:420 |
| | 704 KAR 3:440 |
| | 704 KAR 5:070 |
| Continuous Improvement | 703 KAR 5:140 |
| | KRS 158.782; 703 KAR 5:190 |
| | 703 KAR 3:205 |
| | KRS 160.346; 703 KAR 5:260 |
| | 703 KAR 5:225 |
| Elementary and Secondary Education Act/No Child Left Behind Waiver | Three principles built around meeting the needs of all students and teachers |
| Title I, II, III requirements including equitable distribution of teachers | All students should have teachers who have the capacity to meet their learning needs. KDE has developed and had approved by USED an equity plan. Strategies include:<br>▪ Improve educator preparation by increasing the amount of training for pre-service teachers; revising and aligning teacher preparation and accreditation programs; revising the Kentucky Teacher Internship Program (KTIP) to align with the state's Professional Growth and Effectiveness System (PGES) for educators; and work with institutions of higher education to align current education practices.<br>▪ Improve recruitment, hiring and placement of educators by improving district recruitment practices; evaluating statutes, policies and procedures that may contribute to inequitable hiring practices; reviewing local teacher and student assignment policies; increasing |

| | teacher pay for recruitment in high need schools; and increasing the pool of teachers equipped to work with diverse learners |
|---|---|
| | ▪ Increase ongoing teacher and principal development by strategically allocating federal funds and reviewing alternative funding streams; developing induction and mentoring programs; implementing a coherent statewide system for professional learning that is aligned with PGES and implemented as a continuous improvement process; and engaging teachers in professional learning experiences that would most impact student achievement |
| | ▪ Improve educator retention by providing educator career pathway opportunities and improving a collaborative culture through effective school leadership. |
| Kentucky Rising | This Kentucky initiative is underway to ensure students are college/career-ready and globally competitive. |
| Commissioners Raising Achievement and Closing Gaps Report | These guidelines identify 10 issues that need to be addressed in raising achievement and closing gaps in Kentucky. |
| Education Trust Report | This report, presented to the Kentucky Board of Education in October 2014, describes the issues with Kentucky gaps. |
| My Brothers' Keeper initiative | This is a national initiative, implemented in large districts, in which Kentucky is participating. |
| Our Responsibility, Our Promise | This publication, by the Council on Chief State School Officers (CCSSO), describes state responsibilities. |

**Step 2: Identify the key core work processes**

Associate commissioners from the Office of Next-Generation Schools and Districts (strategic planning, school support, Title I) and the Office of Next-Generation Learners (standards, Title II, exceptional children, teacher quality) met with a facilitator to identify the key core work processes in those offices and across the agency that are necessary to operate effectively and efficiently in order to support novice reduction in schools and districts.

To define the key core work processes, the definition of work systems as outlined in the *Baldrige Criteria for Performance Excellence Education 2015* (p. 54) was used.

> ***WORK SYSTEMS. How your organization's work is accomplished, consisting of the internal work processes and external resources you need to develop and produce programs and services, deliver them to your students and other customers, and***

*succeed in your market.* Work systems involve your workforce, your key suppliers and partners, your contractors, your collaborators, and other components of the supply chain needed to produce and deliver your programs and services and to carry out your business and support processes. Decisions about work systems are strategic. These decisions involve protecting and capitalizing on core competencies (those things your organization does best) and deciding what should be procured from or produced outside of your organization in order to be efficient and sustainable in your market.

**Key Core Work Processes at KDE**

| Key Core Work Process and Questions Addressed | Alignment with Kentucky Board of Education Delivery Target |
|---|---|
| Design and deploy standards. (What should students know and be able to do?) | College and Career Readiness Pathways |
| Design and deliver instruction. (How will they learn it?) | Integrated Methods for Learning |
| Design and deliver assessment literacy. (How will we know they have learned it?) | Novice Reduction |
| Review, analyze and apply data results. (How will we know they have learned it?) | While not a delivery target, this is an essential component for deployment and improvement. |
| Design, align and deliver support processes with a sub-group focus. (What will we do if they know it already, don't know it or need other support?) | Learning Systems |
| Establish a learning culture and environment. (What will we do if they know it already, don't know it or need other support?) | Learning Systems |
| Align community support partners. (How do we engage stakeholders?) | While not a delivery target, this is an essential component for deployment and improvement. |
| Monitor implementation of legal requirements. (compliance) | While not a delivery target, this will ensure alignment with supplier/ stakeholder requirements. |

**Step 3: Analyze Status of Current Key Core Work Processes**
Experts from each of the key core work processes met to determine how their system is structured. These teams became cross-functional based on job responsibilities aligned with other offices. Beginning with the first six teams, the following were completed:
- A seven-category linkage organizational chart that determines the following:
  - Who is leader of the system (who hold the mission, vision and values)?
  - Who are the stakeholders and what are their requirements?
  - What are the strategic objectives of your system?

- - What are the work strands, components, programs and/or strategies in your office that, if it they are truly efficient and effective, would support novice reduction?
  - Who is the workforce and what are their requirements?
  - How do you manage knowledge and information?
  - What are the formative and summative results of your work strands, components, programs, and/or strategies?
- A matrix to prioritize the most important strands, components, programs and/or strategies to improve.
- A Plan Do Study Act (PDSA) cycle was conducted for the improvement of the identified strand, component, program and/or strategy to support the spread, scale or clarity of process and resources within the agency. This also provided districts/schools with a sample/example for planning action based on continuous improvement.

| Strands/components/programs/strategies | Why it's crucial: |
|---|---|
| Literacy Design Collaborative (LDC) | Literacy Design Collaborative (LDC) is an instructional framework to support the implementation of Kentucky's Academic Standards and a means for eliciting evidence of teacher effectiveness in planning, instructing and reflecting. The instructional cycle includes teacher collaboration in designing instruction, analyzing student work and adjusting instructional practice based upon data and lessons learned about students and their needs. LDC empowers teachers to build students' literacy skills in science, history, literature and other important academic content through meaningful reading, writing and other learning experiences. The building block of LDC is the module, a two- to four-week instructional cycle based upon a worthy, compelling and rigorous student task. Early data from Kentucky middle schools shows promise for African American students as well as all other students when the LDC is implemented with fidelity. |
| Math Design Collaborative (MDC) | The Math Design Collaborative (MDC) is an instructional framework for supporting the implementation of Kentucky's Academic Standards and a means for eliciting evidence of teacher effectiveness in planning, instructing and reflecting. The instructional cycle includes teacher collaboration in designing instruction, analyzing student work and adjusting instructional practice based upon data and lessons learned about students and their needs. Although MDC specifically targets the math standards, mathematical literacy developed through MDC extends into science, technology, engineering |

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| | and other content areas. MDC offers well-engineered tools for formative and summative assessment that expose students' mathematical knowledge, reasoning and misconceptions, helping teachers guide them toward improvement and monitor progress. MDC tools are designed to deepen students' understanding of mathematical concepts and develop their ability to apply that knowledge to non-routine problems. MDC supports concept development and problem solving using two structures: Classroom Challenges and Formative Assessment Lessons (FALs). |
| Co-Teaching for Gap Closure (CT4GC) | Co-Teaching for Gap Closure (CT4GC) is a professional learning initiative developed by the Kentucky Department of Education (KDE) in 2012 to help close the achievement gap in Kentucky. It is comprised of four components: co-teaching best practices; continuous classroom improvement; student supports; and English/language arts/ or mathematics instructional strategies. Sustainability is built through a system of coaching from the state level down to the classroom level. The coaching network consists of a state core team, regional educational co-operative consultants, and district/school level internal coaches. The coaching network strengthens capacity building through monthly Professional Learning Communities (PLCs) at each level: state, regional, district/school. CT4GC is a KDE initiative with partners from the University of Kentucky (UK) Human Development Institute (HDI) and the University of Louisville (U of L) Academic and Behavioral Response to Intervention (ABRI) project.<br><br>**Objectives of co-teaching for gap closure** (CT4GC)<br>To increase:<br>• student engagement<br>• student achievement<br>• a teacher's ability to implement with fidelity<br><br>To implement four strategic components:<br>• continuous classroom improvement (CCI)<br>• co-teaching<br>• evidence-based instructional strategies focused on reading/language arts and mathematics to support all content areas<br>• student supports to remove other barriers to learning<br><br>The four components are developed around research-based practices. |

| | Co-teaching is supported through research conducted by Marilyn Friend. |
| --- | --- |
| | Student supports are based on Kentucky's Individual Learning Plan (ILP), Continuous Instructional Improvement Technology System (CIITS), and Professional Growth and Effectiveness System (PGES) Student Voice Survey to remove barriers to learning for individual students. |
| | ELA/mathematics strategies use work from Robert Marzano's *High Yield Instructional Strategies*; Stephanie Harvey's *Strategies that Work*; ABRI; and resources available through CIITS related to Kentucky Academic Standards (KAS). |
| | Continuous classroom improvement is based on Baldrige Criteria for Excellence. |
| | Coaching practices are supported by Jim Knight's work in instructional coaching. |
| | The infrastructure of the initiative was built using Dean Fixsen's and Karen Blasé's work around implementation science. |
| | Training modules were developed using Carol Trivette's research around professional adult learning systems (PALS). |
| | There are three cohorts. Cohort 1 and Cohort 2 were implemented in 2013-14 and Cohort 3 was implemented in school year 2014-15. |
| | CT4GC is currently implemented in 30 districts where there are 84 teaching teams in cohorts 1, 2, and 3. This initiative serves approximately 2,100 students. |
| | We also have implemented scale-up for the 2015-16 school year. The scale-up will allow existing cohort member schools to add teams in their buildings. The cohorts were chosen based on a set of criteria including district/school performance and ability to build capacity and sustainability of best practices contained in the initiative. |
| | Data collection is designed to collect federally reported data to the State Personnel Development Grant (SPDG) and to support closing the achievement gap in the classrooms where |

| | the initiative is implemented. Our data collection tools are developed through Harvard Delivery Institute. The data consist of PLC (Professional Learning Community) data reports; classroom level needs assessments to report existing programs/initiatives in the classroom; customer satisfaction surveys; and training evaluation data. |
|---|---|
| | Kentucky data on this initiative for students with disabilities is very promising. |
| Culturally Responsive Climate (Instruction) | According to Dr. Matthew Lynch (2011), culturally responsive instruction is, "a student-centered approach to teaching in which the students' unique cultural strengths are identified and nurtured to promote student achievement and a sense of well-being about the student's cultural place in the world." This work includes providing support to schools to understand what it is, how to recognize it and how to embed it in day-to-day classroom lessons and the learning environment. |
| Review, Analyze, and Use Data | A significant number of requests come to KDE field staff about data analysis. Having a uniform way of reviewing the online School Report Card and knowing what the data say will assist districts and schools in determining how to set goals for the improvement of novice students' performance. |
| Assessment Literacy for Principals | James Popham, in a Harvard Education Publishing Blog from 2009, states, "Assessment literacy is present when a person possesses the assessment-related knowledge and skills needed for the competent performance of that person's responsibilities." |
| | Since 2008, the KDE has supported the development of assessment literacy among district leadership teams (including teacher, school and district leaders). *Classroom Assessment for Student Learning: Using it Right, Doing it Well* (CASL) and *Characteristics of Highly Effective Teaching and Learning* (CHETL) have served as the touchstones for developing key capacities in assessment literacy. The key issue that has emerged is, how does a principal lead his/her school to effectively and consistently implement assessment literate processes – both formative processes and summative assessments – using data and information available to actually improve instruction? |
| Systems for Continuous Improvement | When a district or school reviews the big picture of novice performance across the system, how do the leaders know how to prioritize, communicate, budget and continuously improve instead of starting over with each child, each year? |

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|---|---|
| | Continuous improvement uses data to improve work processes to support student learning. There are some key tools that can be taught and used to do this (Plus/Delta, root cause, priority matrix, linkage, PDSA, data charts, data questions and 30-60-90 day planning, to name a few). KDE anticipates partnership groups will provide specific training in these areas. |
| Bullying Prevention | A safe environment is a priority. |
| Positive Behavior Intervention Systems (PBIS) | More than 500 schools in Kentucky have been trained in PBIS. When implemented with fidelity and monitored, the data is excellent on improving school climate.<br><br>This is an area where partnerships will be crucial to ensuring deployment with fidelity across the Commonwealth. |
| Academic Support Continuum | Response to Intervention (RtI) is non-negotiable. Every school must have Tier 1, 2, 3 intervention systems for all students. Clearly defined interventions with goals for each student and just-in-time interventions provide support for all students, but especially those performing at the novice level. Learning is a progression. The RtI and Kentucky System of Interventions will make a difference when supported. An intense review of what works will assist schools and districts in setting funding priorities for these purposes. |
| Behavior Support Continuum | Behavior is about the learning climate of the school. Just as there is a continuum for academic needs there also is a behavior continuum. This strategy will not provide or suggest a program, but will help a school look at its current continuum of services for students. Students and teachers must feel safe for learning to occur. |
| Teacher and Principal Professional Growth Systems | As the next iteration of the accountability model for Kentucky schools and districts focuses on novice reduction, how can the Teacher and Principal Professional Growth and Evaluation Systems (TPGES and PPGES) support educators to ensure growth goals and school activities move beyond compliance to effective strategies that work?<br><br>This alignment is essential for educators to continue to understand that all of these are pieces to the learning puzzle that all fit together. Clearly this is where all of the initiatives come together. Coordinated work with partners for understanding and targeted support continues to develop. |

**Step 4: Implement the PDSA at the KDE Level**

Deliverables for this step include:

- An elevator speech about each selected strand, component, program and strategy to be shared with the Kentucky Department of Education and the Kentucky Board of Education to ensure understanding and alignment of how all roles in the agency support novice reduction
- The development of a webpage for the strands, components, programs and strategies that were chosen in order to have all relevant resources located in a single place along with contact information for the strategy. The webpage will include but is not limited to:
  - title
  - a graphic applicable to the category in which the item fits
  - page description
  - main content including a diagnostic tool districts/schools can use to determine if this is a good strategy for them or if they are moving in the right direction
  - an example 30/60/90 day plan for implementation
  - self-help resources
  - contact at the agency

**Step 5: Development of a 30-60-90 day plan**
The 30-60-90 day plans are developed as an example of how a district or school might implement the strand, program, component and/or strategy. These will be posted on the website between July and September.

**Step 6: Connect with partners**
Partners will be consulted to provide feedback. Partners include the Kentucky educational groups, cooperatives and already aligned groups.

**Step 7: Launch draft website**
The new website and the vision will be launched in September.

**Step 8: Coordinate pilot into a few districts to monitor**
KDE has hired a coordinator and five regional novice reduction coaches to provide just-in-time support. From September through December, pilots will operate to generate feedback on how to improve KDE's novice reduction coaching processes. All districts will be able to access the website during the pilot period. Based on what is learned, an updated website will roll out in January.

**Step 9: Make changes as necessary for quality implementation statewide**

**Step 10: Continue** Plan, Do, Study, Act (PDSA)
Continue deploying the PDSA, monitor for feedback and align with legal requirements.

**The Deployment**
- There is an overall PDSA for the development and deployment work.
- Each key core work process team has a PDSA for deployment of their specific strategy
    July: Introduce to partners for feedback
    July-December:  Pilot in five districts; roll out website in September; revise in
    January 2016: Services available to all districts throughout this period.

**The Appendices**

Two appendices are included to provide context with alignment to CHETL and PGES and to present the overall theory of action of novice reduction in Kentucky.

**Appendix A**

**A systems' check to answer the question:** Where does intervention for novice reduction fit into what Kentucky already knows about the *Characteristics of Highly Effective Teaching and Learning* that are common to all content areas and the *Kentucky Framework for Teaching* used in the Professional Growth and Effectiveness System (PGES)?

| Characteristics of Highly Effective Teaching and Learning (CHETL) | Novice Reduction Work Process Alignment | PGES Alignment *Kentucky Framework for Teaching (KFfT)* | Leverage process/component system for novice reduction |
|---|---|---|---|
| **Instructional rigor and student engagement** | **Instruction; Environment and Support** | **Domain 1: Planning and Preparation**<br><br>**Domain 3: Instruction** | **Culturally Responsive Instruction; Literacy Design Collaborative (LDC); Math Design Collaborative (MDC); Co-Teaching For Gap Closure (CT4GC); Academic Continuum; Advising** |
| Teacher instructs the complex processes, concepts and principles contained in state and national standards using differentiated strategies that make instruction accessible to all students. | Instruction; Environment and Support | 1A-Knowledge of Content and Pedagogy<br><br>1E-Designing Coherent Instruction | CT4GC; LDC; MDC; Standards and Curriculum; Continuum for Success; Advising; Continuous Improvement |
| Teacher scaffolds instruction to help students reason and develop problem-solving strategies. | Instruction; Environment and Support | 1E-Designing Coherent Instruction<br><br>3A-Communication with Students | CT4GC; LDC; MDC; Academic Continuum |
| Teacher orchestrates effective classroom discussions, questioning, and learning tasks that promote higher-order thinking skills. | Instruction; Environment and Support | 3B-Using Questioning and Discussion Techniques | CT4GC; LDC; MDC; Academic Continuum |
| Teacher provides meaningful learning opportunities for students. | Instruction; Environment and Support | 1E-Designing Coherent Instruction | Assessment Literacy; Academic Continuum; Culturally Responsive Instruction |

| | | | |
|---|---|---|---|
| Teacher challenges students to think deeply about problems and encourages/models a variety of approaches to a solution. | Instruction; Environment and Support | 1E-Designing Coherent Instruction<br><br>3C-Engaging Students in Learning | CT4GC; LDC; MDC; Academic Continuum; Culturally Responsive Instruction; Continuous Improvement |
| Teacher integrates a variety of learning resources with classroom instruction to increase learning options. | Instruction; Environment and Support | 1B-Demonstrating Knowledge of Students<br><br>1D-Demonstrating Knowledge of Resources | CT4GC; LDC; MDC; Academic Continuum; Culturally Responsive Instruction; Continuous Improvement |
| Teacher structures and facilitates ongoing formal and informal discussions based on a shared understanding of rules and discourse. | Instruction; Environment and Support | 3A-Communicating with Students<br><br>3B-Using Questioning and Discussion Techniques | Behavior Continuum; Academic Continuum; Continuous Improvement; Assessment Literacy |
| Teacher integrates the application of inquiry skills into learning experiences | Instruction; Environment and Support | 3C-Engaging Students in the Learning | CT4GC; LDC; MDC; Academic Continuum; Culturally Responsive Instruction; Continuous Improvement |
| Teacher clarifies and shares with students learning intentions/targets and criteria for success. | Instruction; Environment and Support | 1C-Selecting Instructional Outcomes<br><br>3A-Communicating with Students | Continuum For Success; Academic Continuum; Behavior Continuum; Continuous Improvement |
| Student articulates and understands learning intentions/targets and criteria for success. | Instruction; Environment and Support | Student Voice | Continuum For Success; Academic Continuum; Behavior Continuum; CT4GC; Continuous Improvement |
| Student reads with understanding a variety of texts. | Instruction; Environment and Support | Student Voice | Standards, LDC |
| Student applies and refines inquiry skills. | Instruction; Environment and Support | Student Voice | LDC; MDC; Assessment Literacy; Continuous Improvement; Culturally Responsive Instruction |

| Instructional Relevance | Instruction; Environment and Support; Curriculum and Standards; Continuous Improvement; Assessment | Domain 1: Planning and Preparation<br><br>Domain 2: Classroom Environment<br><br>Domain 4: Professional Responsibilities | Culturally Responsive Instruction; LDC; MDC; CT4GC; Deploying Standards; Career Pathways; Continuum for Success; Academic Continuum; Advising; Data Analysis; Continuous Improvement |
|---|---|---|---|
| Teacher designs learning opportunities that allow students to participate in empowering activities in which they understand that learning is a process and mistakes are a natural part of the learning. | Instruction; Environment and Support Curriculum and Standards Continuous improvement and assessment | 1E-Designing Coherent Instruction 2B-Establising a Culture for Learning | LDC; MDC, Culturally Responsive Instruction, CT4GC |
| Teacher links concepts and key ideas to students' prior experiences and understandings, uses multiple representations, examples and explanations. | Instruction; Environment and Support Curriculum and Standards Continuous improvement and assessment | 1B-Demonstrating Knowledge of Students | Standards and Curriculum |
| Teacher incorporates student experiences, interests and real life situations in instruction. | Instruction; Environment and Support Curriculum and Standards Continuous improvement and assessment | 1B-Demonstrating Knowledge of Students | Standards and Curriculum; Culturally Responsive Instruction |
| Teacher selects and utilizes a variety of technology that support student learning. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | 1D-Demonstrating Knowledge of Resources<br><br>1E-Designing Coherent Instruction | Standards and Curriculum; Continuum for Success |

| | | | |
|---|---|---|---|
| Teacher effectively incorporates 21st Century Learning Skills that prepare students to meet future challenges. | Instruction; Environment and Support; Curriculum and Standards; Continuous Improvement; Assessment | 1E-Designing Coherent Instruction | Standards and Curriculum, Continuum for Success |
| Teacher works with other teachers to make connections between and among disciplines. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | 4D-Participating in a Professional Community<br><br>4E-Growing and Developing Professionally | Data Review, Analysis and Use; Continuous Improvement |
| Teacher makes lesson connections to community, society and current events. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | 1D-Demonstrating Knowledge of Resources | Standards and Curriculum; Culturally Responsive Instruction; Advising |
| Student poses and responds to meaningful questions. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | Student Voice and engagement | Culturally Responsive Instruction; Standards and Curriculum; LDC; MDC; CT4GC |
| Student uses appropriate tools and techniques to gather, analyze and interpret information from quantitative and qualitative evidence. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | Student Voice and engagement | Standards and Curriculum; Assessment Literacy; Tiered Academic Interventions; Continuous Improvement |

| Student develops descriptions, explanation, predictions and models using evidence. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | Student Voice and engagement | Standards and Curriculum; Assessment Literacy; Tiered Academic Interventions; Continuous Improvement |
|---|---|---|---|
| Student works collaboratively to address complex, authentic problems, which require innovative approaches to solve. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | Student Voice and engagement | Standards and Curriculum; Assessment Literacy; Tiered Academic Interventions; Continuous Improvement; LDC; MDC; CT4GC |
| Student communicates knowledge and understanding in a variety of real-world forms. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | Student Voice and engagement | Standards and Curriculum; Assessment Literacy; Academic Continuum; Continuous Improvement; LDC; MDC; CT4GC |
| Student communicates knowledge and understanding for a variety of purposes. | Instruction; Environment and Support; Standards and Curriculum; Continuous Improvement; Assessment | Student Voice and engagement | Standards and Curriculum; Assessment Literacy; Academic Continuum; Continuous Improvement; LDC; MDC; CT4GC |
| **Knowledge of Content** | **Standards and Curriculum; Instruction; Environment and Support** | **Domain 1: Planning and Preparation**<br><br>**Domain 2: Classroom Environment**<br><br>**Domain 3: Instruction**<br><br>**Domain 4:** | **Deploying Standards; Career Pathways; Continuum For Success; Culturally Responsive Instruction; LDC; MDC; CT4GC; Academic Continuum; Advising** |

| | | Professional Responsibilities | |
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| Teacher demonstrates an understanding and in depth knowledge of content and maintains an ability to convey this content to students. | Standards and Curriculum; Instruction; Environment and Support | 1A-Demonstrating Knowledge of Content and Pedagogy<br><br>3A-Communicating with Students | Standards and Curriculum; LDC; MDC; CT4C; Academic Continuum |
| Teacher maintains on going knowledge and awareness of current content developments. | Standards and Curriculum; Instruction; Environment and Support | 1A-Demonstrating Knowledge of Content and Pedagogy<br><br>4E-Growing and Developing Professionally | Standards and Curriculum; Continuous Improvement |
| Teacher designs and implements standards based courses/lessons/units using state and national standards. | Standards and Curriculum; Instruction; Environment and Support | 1E-Designing Coherent Instruction | Standards and Curriculum; Continuous Improvement; Culturally Responsive Instruction |
| Teacher uses and promotes the understanding of appropriate content vocabulary. | Standards and Curriculum; Instruction; Environment and Support | 1A-Demonstrating Knowledge of Content and Pedagogy | Standards and Curriculum; Continuous Improvement; Culturally Responsive Instruction |
| Teacher provides essential supports for students who are struggling with the content. | Standards and Curriculum; Instruction; Environment and Support | 3C-Engaging Students in the Learning<br><br>3E-Demonstrating Flexibility and Responsiveness | Academic Continuum; Assessment Literacy; Advising; Continuous Improvement; Culturally Responsive Instruction, Behavior Continuum |
| Teacher accesses a rich repertoire of instructional practices, strategies, resources and applies them appropriately. | Standards and Curriculum; Instruction; Environment and Support | 1A-Demonstrating Knowledge of Content and Pedagogy<br><br>1E-Designing Coherent Instruction | Academic Continuum; Assessment Literacy; Advising; Continuous Improvement; Culturally Responsive Instruction; Behavior Continuum |

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| Student demonstrates growth in content knowledge. | Standards and Curriculum; Instruction; Environment and Support | Student Voice and engagement | Academic Continuum; Assessment Literacy; Advising; Continuous Improvement; Culturally Responsive Instruction; Behavior Continuum; Standards and Curriculum |
| Student uses and seeks to expand appropriate content vocabulary. | Standards and Curriculum; Instruction; Environment and Support | Student Voice and engagement | Academic Continuum; Assessment Literacy; Advising; Continuous Improvement; Culturally Responsive Instruction; Behavior Continuum; Standards and Curriculum |
| Student connects ideas across content areas. | Standards and Curriculum; Instruction; Environment and Support | Student Voice and engagement | Academic Continuum; Assessment Literacy; Advising, Continuous Improvement;  Culturally Responsive Instruction; Behavior Continuum; Standards and Curriculum |
| Student uses ideas in realistic problem situations. | Standards and Curriculum; Instruction; Environment and Support | Student Voice and engagement | Continuum for Student Success; Standards and Curriculum |
| **Learning Climate** | **Instruction; Environment and Support** | **Domain 1: Planning and Preparation**<br><br>**Domain 2: Classroom Environment**<br><br>**Domain 3: Instruction** | **Academic Continuum; Advising; Bullying Prevention; Positive Behavioral Interventions and Supports (PBIS); Behavior Continuum; Culturally Responsive Instruction; LDC; MDC; CT4GC** |
| Teacher creates learning environments where students are active participants as individuals and as members of collaborative groups. | Instruction; Environment and Support | 2B-Establishing a Culture for Learning | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Instruction |

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| Teacher motivates students and nurtures their desire to learn in a safe, healthy and supportive environment which develops compassion and mutual respect. | Instruction; Environment and Support | 2A-Creating an Environment of Respect and Rapport<br><br>2E-Organizing Physical Space | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Instruction |
| Teacher cultivates cross cultural understandings and the value of diversity | Instruction; Environment and Support | 1B-Demonstrating Knowledge of Students<br><br>2A-Creating an Environment of Respect and Rapport | Culturally Responsive Instruction; Continuous Improvement |
| Teacher encourages students to accept responsibility for their own learning and accommodates the diverse learning needs of all students. | Instruction; Environment and Support | 1C-Selecting Instructional Outcomes<br><br>2B-Establishing a Culture for Learning | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Instruction; Continuous Improvement |
| Teacher displays effective and efficient classroom management that includes classroom routines that promote comfort, order and appropriate student behaviors. | Instruction; Environment and Support | 2C-Managing Classroom Procedures<br><br>2D-Managing Student Behavior | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Instruction |
| Teacher provides student equitable access to technology, space tools and time. | Instruction; Environment and Support | 1D-Demonstrating Knowledge of Resources<br><br>2E-Organizing Physical Space | Academic And Behavior Continuum, LDC; MDC; CT4GC |
| Teacher effectively allocates times for students to engage in hands on experiences, discuss and process content, and make meaningful connections. | Instruction; Environment and Support | 2C-Managing Classroom Procedures<br><br>3C-Engaging Students in the Learning | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Instruction |
| Teacher designs lessons that allow students to participate in empowering | Instruction; Environment and Support | 1E-Designing Coherent Instruction | Academic Continuum; Advising; Bullying Prevention; PBIS; |

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| activities in which they understand that learning is a process and mistakes are a natural part of learning. | | 2B-Establishing a Culture for Learning | Behavior Continuum; Culturally Responsive Instruction |
| Teacher creates an environment where student work is valued, appreciated and used as a learning tool. | Instruction; Environment and Support | 2B-Establishing a Culture for Learning 3D-Using Assessment in Instruction | Academic Continuum, Advising, Bullying Prevention, PBIS, Behavior Continuum, Culturally Responsive, |
| Student accepts responsibility for his/her own learning | Instruction; Environment and Support | Student Voice and engagement | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Istruction |
| Student actively participates and is authentically engaged. | Instruction; Environment and Support | Student Voice and engagement | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Instruction |
| Student collaborates/teams with other students | Instruction; Environment and Support | Student Voice and engagement | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Instruction |
| Student exhibits a sense of accomplishment and confidence | Instruction; Environment and Support | Student Voice and engagement | Academic Continuum, Advising, Bullying Prevention, PBIS, Behavior Continuum, Culturally Responsive, |
| Student takes educational risks in class. | Instruction; Environment and Support | Student Voice and engagement | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; Culturally Responsive Instruction |
| Student practices and engages in safe, responsible and ethical use of technology. | Instruction; Environment and Support | Student Voice and engagement | Academic Continuum; Advising; Bullying Prevention; PBIS; Behavior Continuum; |

| Classroom Assessment and Reflection | Assessment Literacy; Data, Analysis and Use | Domain 1: Planning and Preparation  Domain 2: Classroom Environment  Domain 3: Instruction  Domain 4: Professional Responsibilities | Culturally Responsive Instruction; Continuous Improvement  Continuous Improvement; Assessment Literacy |
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| Teacher uses multiple methods to systematically gather data about student understanding and ability. | Assessment Literacy; Data, Analysis and Use | 1F-Designing Student Assessment  3D-Using Assessment in Instruction  4A-Reflecting on Teaching | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement |
| Teacher uses student work/data, observations of instruction, assignments and interactions with colleagues to reflect on and improve teaching practice. | Assessment Literacy; Data, Analysis and Use | 1F-Designing Student Assessment  3D-Using Assessment in Instruction  4A-Reflecting on Teaching | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement |
| Teacher revises instructional strategies based upon student achievement data. | Assessment Literacy; Data, Analysis and Use | 1F-Designing Student Assessments  3D-Using Assessment in Instruction  4A-Reflecting on Teaching | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Teacher uncovers students' prior understanding of the concepts to be addressed and addresses students' | Assessment Literacy; Data, Analysis and Use | 1F-Designing Student Assessments  3D-Using Assessment in Instruction | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |

| misconceptions/incomplete concepts. | | | |
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| Teacher co-develops scoring guides/rubrics with students and provides adequate modeling to make clear the expectations for quality performance. | Assessment Literacy; Data, Analysis and Use | 1C-Selecting Instructional Outcomes<br><br>3D-Using Assessment in Instruction | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Teacher guides students to apply rubrics to assess their performance and identify improvement strategies. | Assessment Literacy; Data, Analysis and Use | 2B-Establishing a Culture for Learning<br><br>3D-Using Assessment in Instruction | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Teacher provides regular timely feedback to students and parents that moves learners forward. | Assessment Literacy; Data, Analysis and Use | 3D-Using Assessment in Instruction<br><br>4C-Communicating with Families | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Teacher allows students to use feedback to improve their work before a grade is assigned. | Assessment Literacy; Data, Analysis and Use | 3D-Using Assessment in Instruction<br><br>3E-Demonstrating Flexibility and Responsibility | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Teacher facilitates students in self- and peer-assessments. | Assessment Literacy; Data, Analysis and Use | 2B-Establishing a Culture for Learning<br><br>3D-Using Assessment in Instruction | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Teacher reflects on instruction and makes adjustments as student learning occurs. | Assessment Literacy. Data, Analysis and Use | 3D-Using Assessment in Instruction<br><br>3E-Demonstrating Flexibility and Responsibility<br>4A-Reflecting on Instruction | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Student recognizes what proficient work looks like and determines steps | Assessment Literacy; | Student Voice and engagement | Assessment Literacy; Data Review, Analysis and Use; Continuous |

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| necessary for improving his/her work. | Data, Analysis and Use | | Improvement; Academic Continuum |
| Teacher and student monitors progress toward reaching learning targets. | Assessment Literacy; Data, Analysis and Use | Student Voice and engagement | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Student develops and/or uses scoring guides periodically to assess his/her own work or that of peers. | Assessment Literacy; Data, Analysis and Use | Student Voice and engagement | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Student uses teacher and peer feedback to improve his/her work. | Assessment Literacy; Data, Analysis and Use | Student Voice and engagement | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |
| Both teacher and students reflect on work and make adjustments as learning occurs. | Assessment Literacy; Data, Analysis and Use | Student Voice and engagement | Assessment Literacy; Data Review, Analysis and Use; Continuous Improvement; Academic Continuum |

**Appendix B**

**Theory of Action**

- If KDE uses as a foundation the *Characteristics of Highly Effective Teaching and Learning*, and
- If KDE aligns key core novice reduction work systems with the Teacher and Principal Professional Growth and Effectiveness Systems, and
- If KDE identifies the desired outcomes for students performing at the novice level, and
- IF KDE identifies the key core work processes at KDE that contribute to continuous improvement toward the desired outcomes, and
- IF KDE clearly defines the component parts of the management system behind each key core work process, and
- IF KDE prioritizes the operations within the key core work processes, and
- IF KDE conducts a PDSA for continuous improvement of the operational component (activity/program/strategy) over time, and
- IF KDE clearly defines the research base and elements necessary for ensuring proper support for the identified intervention components, and
- IF KDE develops a communications and delivery plan for the components or interventions to include:
    - professional learning following Professional Learning Guidelines including measuring and monitoring implementation
    - a webpage specific to the intervention identified
    - clear, quality communication products required by the plan and approved by the KDE Division of Communications
    - assistance in identifying and guiding direction for necessary resources for various stakeholders to be successful
    - partners as a part of the delivery mechanism (as appropriate)
    - clearly defined specific measures both within the process as well as aligned results, and
- IF vital partners (cooperatives, districts, schools, classrooms, non-profit and for-profit organizations) assist with using the KDE-identified processes and interventions as outlined,

**RESULTS**

- **THEN** the numbers of students scoring at the novice level, most notably those in gap groups, will decline continuously through establishment of high performing, effective systems of delivery and support.

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White paper compiled by Susan G. Allred, administrative coach, KDE, August, 2015.